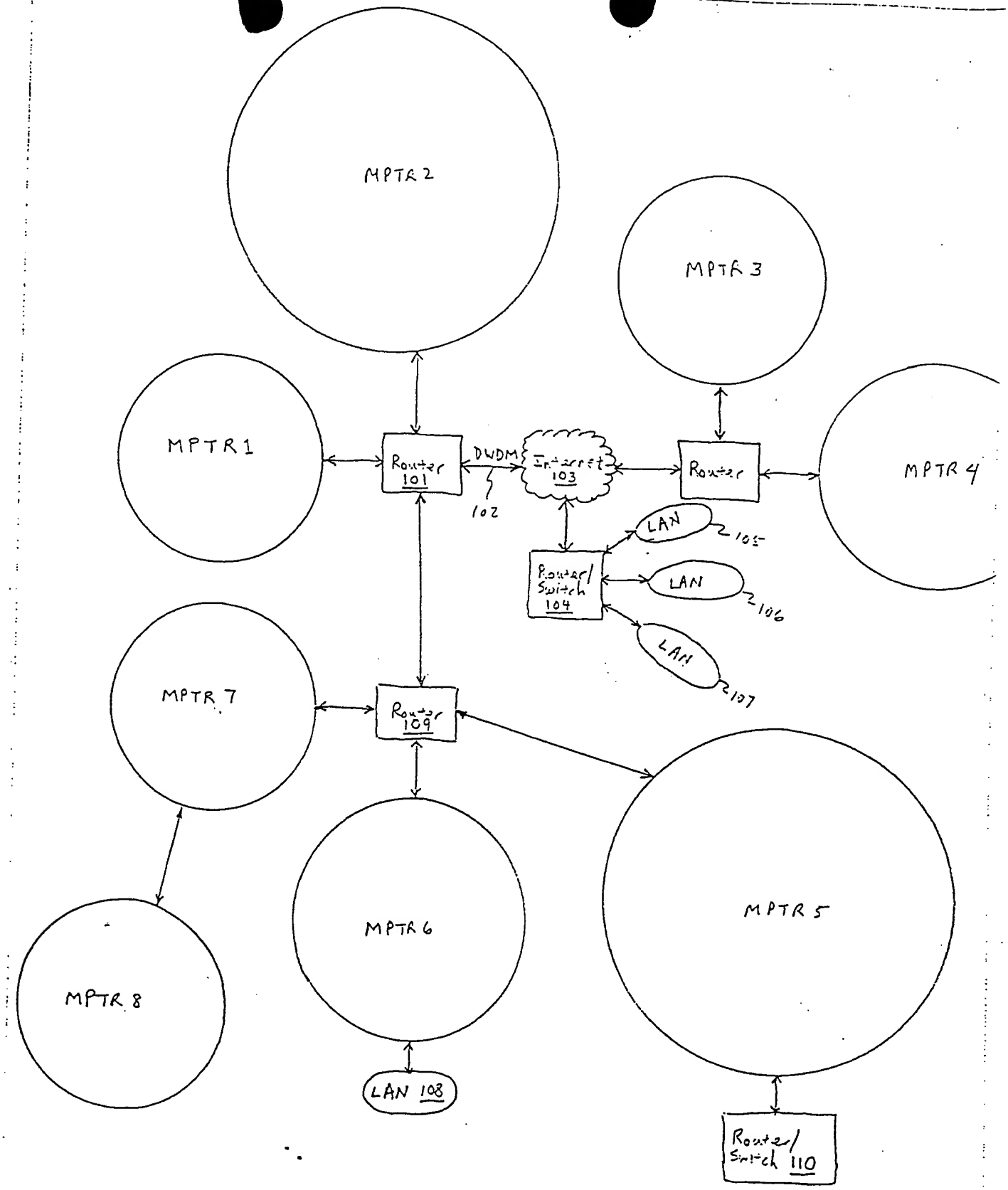
MPTR 2
MPTR 3
MPTR 1
MPTR 4
Router 101
DWDM
102
Internet 103
Router
LAN 105
Router/ Switch 104
LAN 106
LAN 107
MPTR 7
Router 109
MPTR 6
MPTR 5
MPTR 8
LAN 108
Router/ Switch 110

FIG.1

09/748,080 12/26/2000

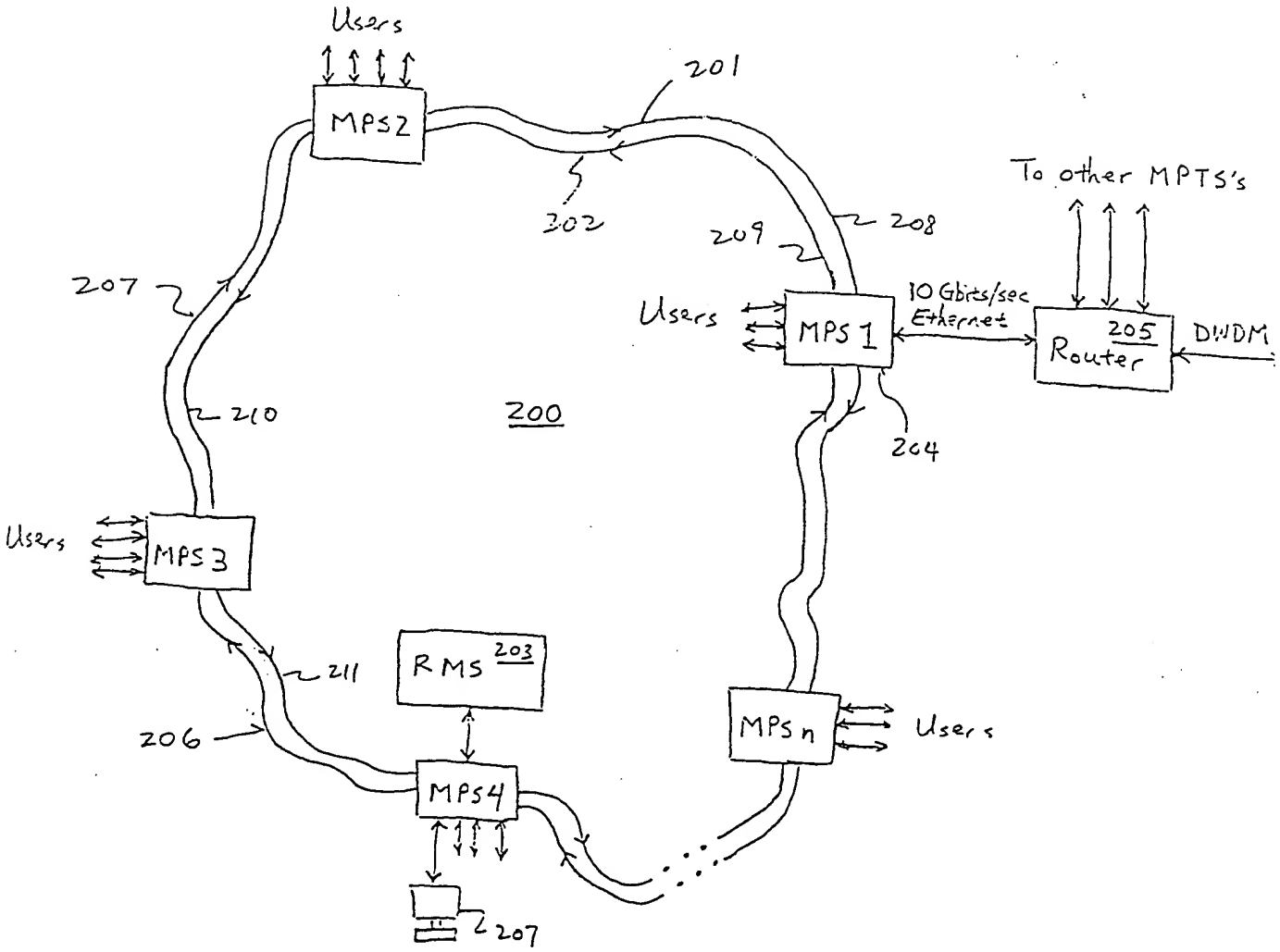

FIG.2

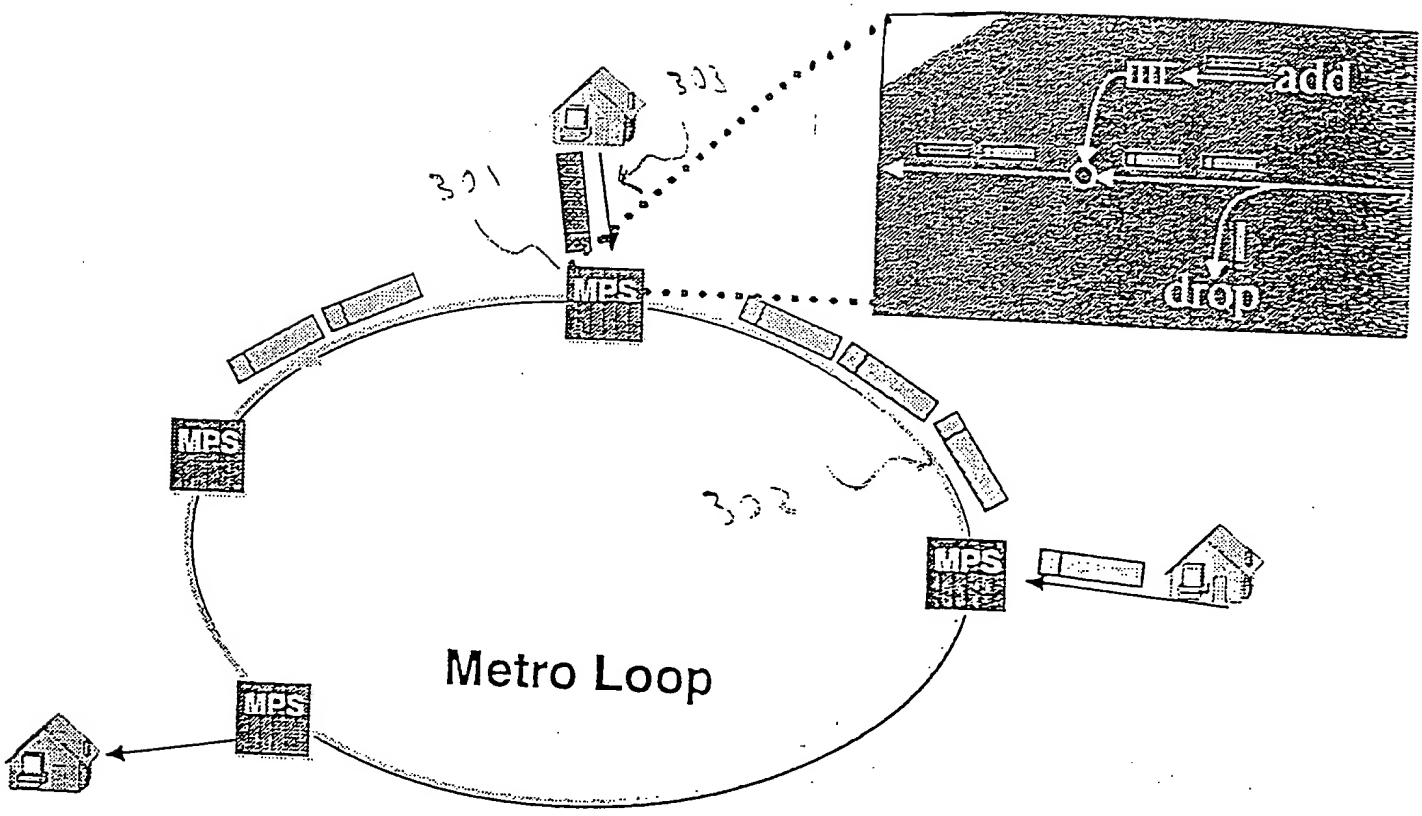

FIG. 3

0050700.0811800

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

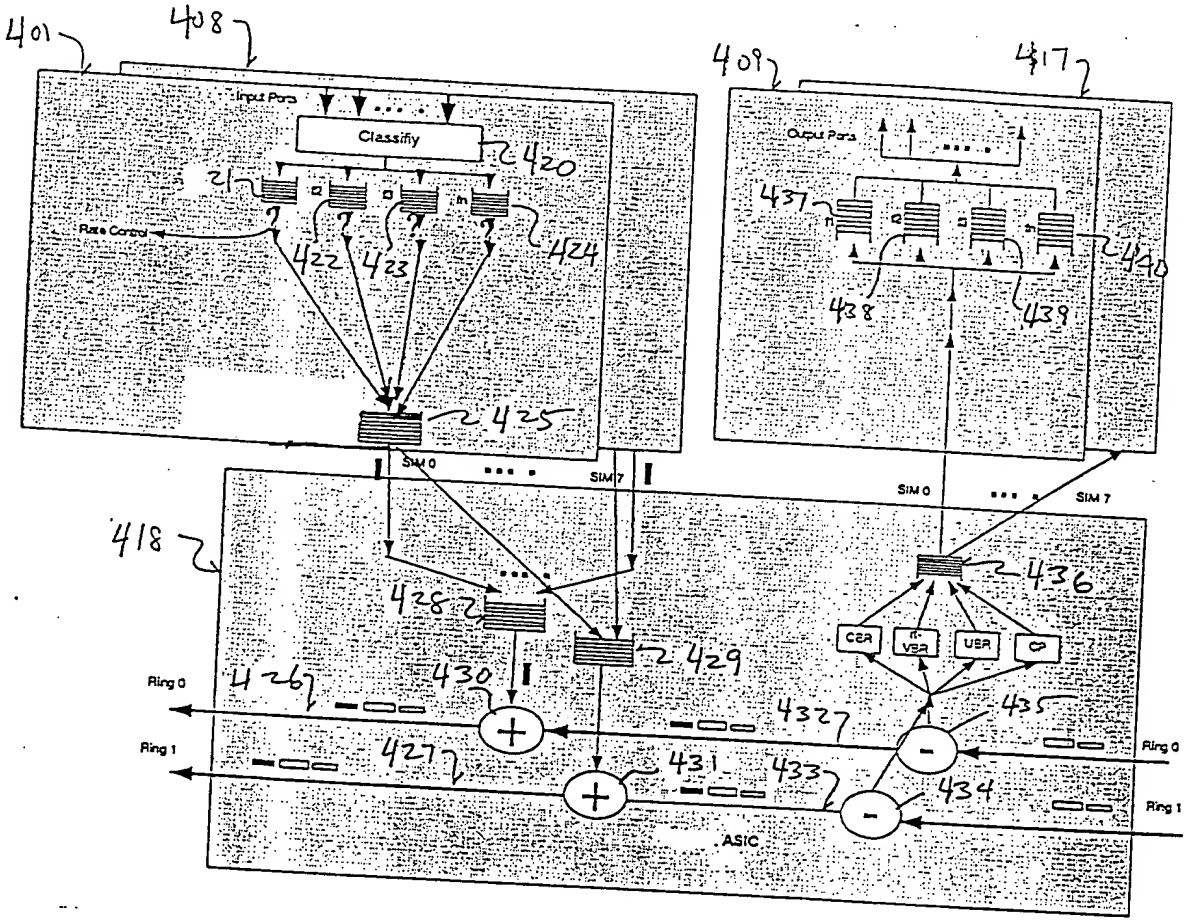

Figure 4

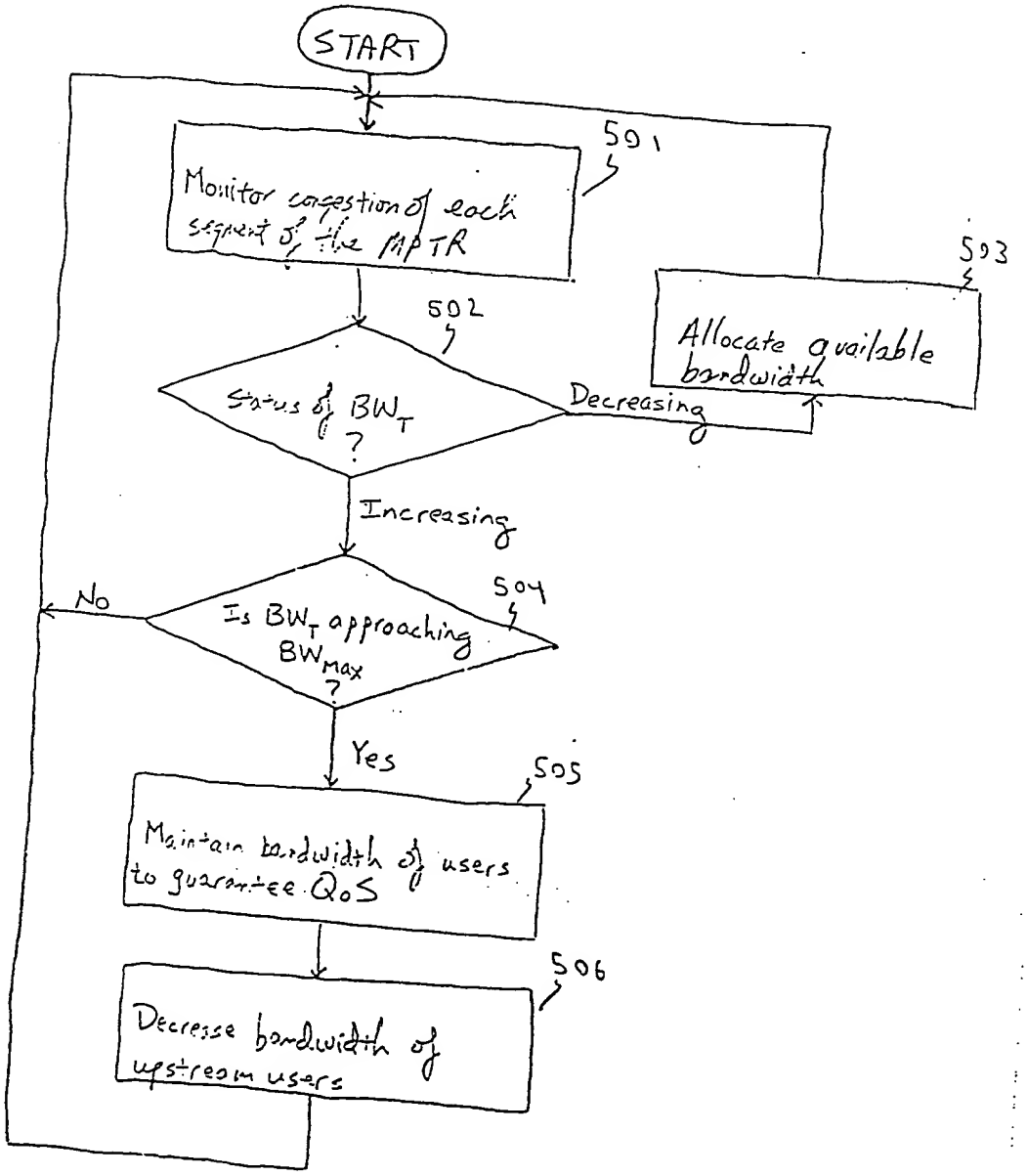
START
501
Monitor congestion of each segment of the MPTR
502
Status of BW_T ?
Decreasing
503
Allocate available bandwidth
Increasing
504
Is BW_T approaching BW_{max} ?
No
Yes
505
Maintain bandwidth of users to guarantee QoS
506
Decresse bandwidth of upstream users

FIG.5

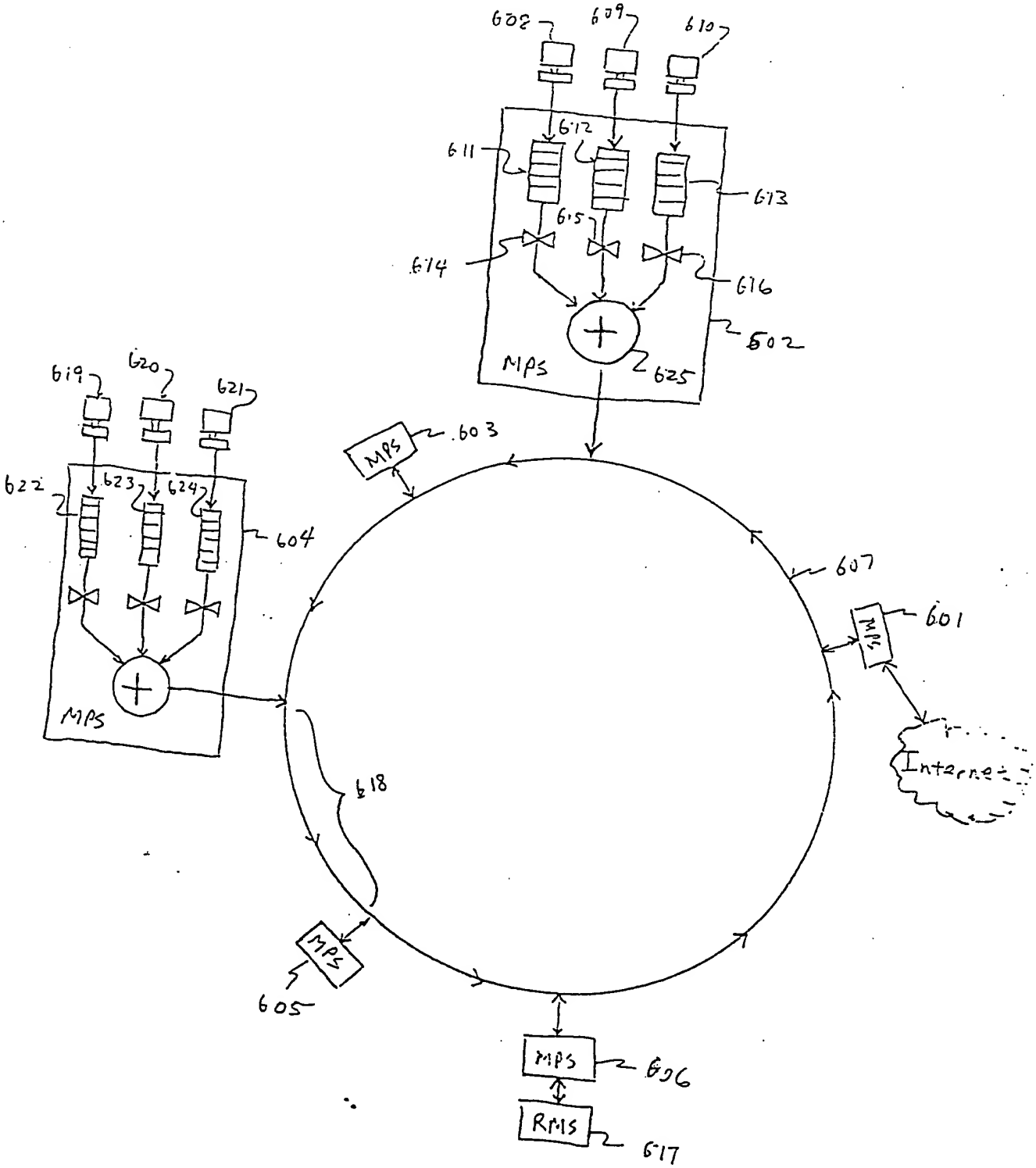
608
609
610
612
611
613
615
614
616
625
502
MPS
619
620
621
622
623
624
604
MPS
603
607
MPS
601
Internet
618
MPS
605
MPS
606
RMS
617

FIG.6

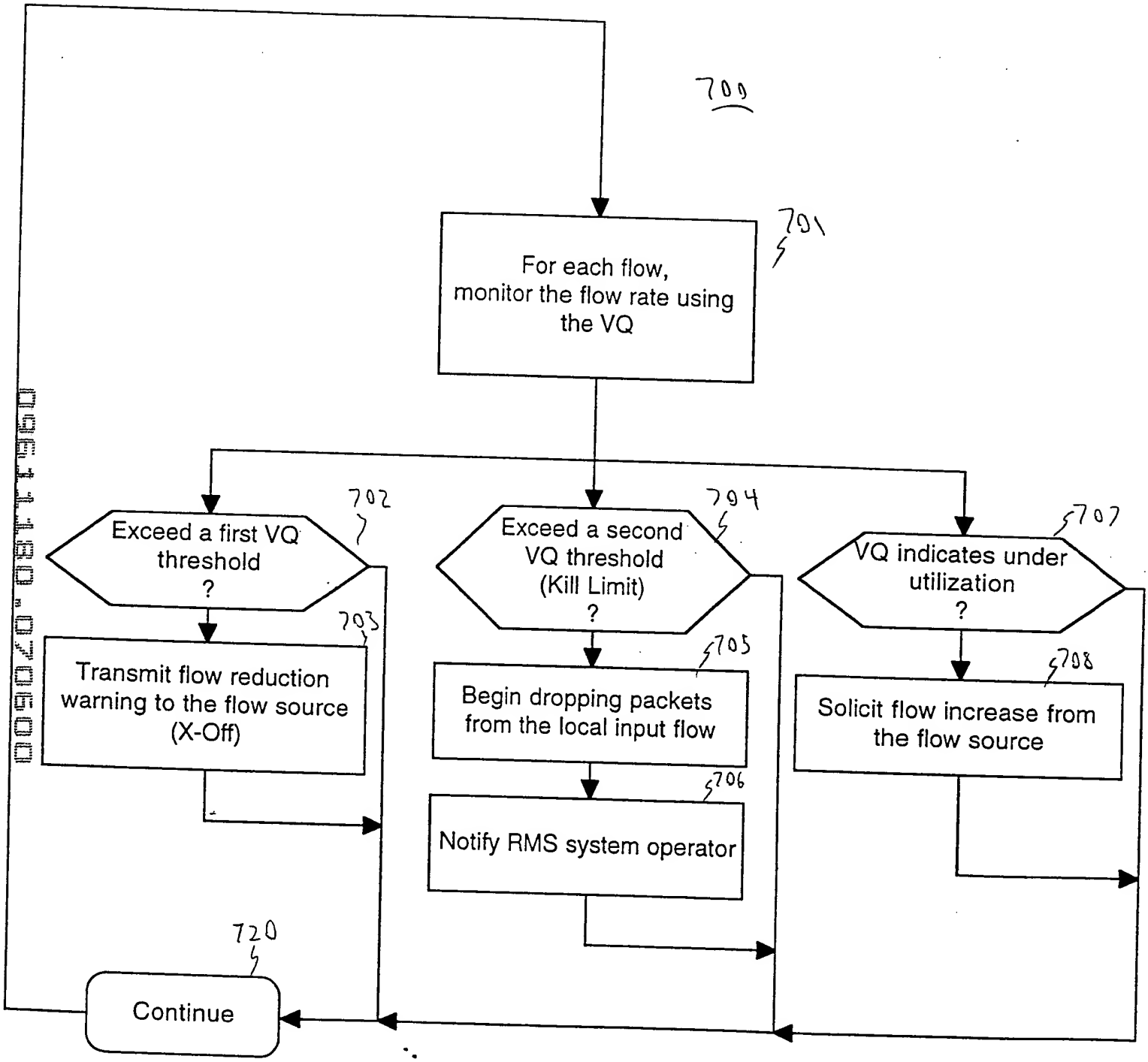
700
For each flow, monitor the flow rate using the VQ
701
Exceed a first VQ threshold ?
702
Transmit flow reduction warning to the flow source (X-Off)
703
Exceed a second VQ threshold (Kill Limit) ?
704
Begin dropping packets from the local input flow
705
Notify RMS system operator
706
VQ indicates under utilization ?
707
Solicit flow increase from the flow source
708
720
Continue

FIG. 7

800

Flow ID	Valid	X-OFF	Action	P_Ring	C_Ring	Dist	SIM Fanout	M/U	Protection	BE Weight	Reserved rate	R Finish time	S Finish time	R_OF	S_OF	Reserved	Note
0 bit	1 bit	1 bit	1 bit	1 bit	1 bit	2 bits	9 bits	1 bit	1 bit	6 bits	14 bits	32 bits	32 bits	1 bit	1 bit	4 bits	8.4 sec @5ns clk
1	1	No	Kill	R1		Transit	0000000000	0	Guarantee	0	10 Mbps	435ABC	435ABC				Backlogged flow
2	1	Yes	Pass	R2		receive	1000000000	0	BE(STD)	1	80 Mbps	NULL	NULL				Non-Backlogged flow
3	1		Pass	R2		Transit	0000000000	0		0	NULL	NULL	NULL				Unused entry
4	1		Pass	R1		Insert	0000000001	0		63	1 Gbps	3535DF	3535DF				Backlogged flow
5	1		Pass	R1		copy	1000000000	1	Guarantee	0	100 Mbps	.	.				Pickup for Multicast
.											.	.	.				.
.	0										.	.	.				.
.											.	.	.				.
9999	1					Insert				0	8.5 Gbps	NULL	NULL				Non-Backlogged flow

Fig. 8

0090270 08E1650

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